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02 23 53 00 CC Apollo 8, Houston. Roger.
02 23 53 07 CC Apollo 8, Houston. Thank you for the look.
02 23 53 12 CDR Roger.
02 23 55 02 CC Apollo 8, this is Houston. You have the DSE.
02 23 55 08 CDR Thank you, Houston.
02 23 55 10 CC Roger. Apollo 8, on your backside data, it's pretty much unintelligible. We suggest, Bill, that you recheck the position of your mike for your backside pass and try to speak a little bit louder and more distinctly. The last one we listened to was pretty much unintelligible. Over.

02 23 55 34 LMP Roger. As soon as we get squared away, we will give you a real quick real time summary.

02 23 55 39 CC Roger.

02 23 55 56 LMP And, Houston, you might let us know, can we do the red/blue filter exercise with both these filters - red filters on? Over.

02 23 56 06 CC Stand by.

02 23 56 10 CC Apollo 8, this is Houston. Apollo 8, Houston. Negative.

02 23 56 33 CC Apollo 8, this is Houston with an LOI 2 maneuver PAD. Ready to copy?

02 23 56 41 CDR Stand by.

02 23 56 42 CC Houston. Standing by.

02 23 57 06 CDR Okay, Houston. Go ahead.

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02 23 57 09 CC Apollo 8, this is Houston. LOI 2, SPS/G&N:
46427, minus 053, plus 141 07335 0570 minus
01350, plus all zeros, plus all zeros. Copy?

02 23 58 03 LMP Roger.

02 23 58 06 CC Roger. 000 175 358 00607, plus 00606, 01350
009 01265 02 3112 197. Copy?

02 23 59 00 LMP Roger.

02 23 59 05 CC Roger. Taurus, Aida; I repeat, Taurus Aida.
Up 162, left 01, the remainder not applicable.
GDC align Sirius, Rigel 129, 155, 010, negative
ullage, horizon window ignition minus 3 27 de-
grees, horizon left. At ignition, 18 degrees,
horizon left; before readback, configure for
receiving any update. Over.

03 00 00 16 CDR Roger. Understand. Configure for receiving
an update.

03 00 00 26 CDR Okay. We're in POO and ACCEPT. Go ahead.

03 00 00 30 CC Roger. I'm ready for your readback.

03 00 00 35 CDR LOI 2, SPS/G&N: 46427, minus 053, plus 141
073 35 0570, minus 01350, plus 0000, plus
0000 000 175 358 00607, plus 00606 01350 009
01265 02 3112 197; Taurus, Aida, up 16.2, left
0.1, fixed read not applicable; Sirius, Rigel
129 155 010, no ullage, ignition minus 3 27 de-
grees, ignition 18 degrees.

03 00 01 51 CC Apollo 8, Houston. Roger. Readback is correct.

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03 00 02 12 CC Apollo 8, this is Houston. Your map update for REV 2/3, no change. Over.

03 00 02 22 CDR Understand. No change, REV 2/3.

03 00 02 25 CC Roger, Frank. You can expect GO/NO-GO for the next rev at 20 minutes before LOS. Over.

03 00 02 37 CDR Roger.

03 00 02 45 CC Apollo 8, this is Houston. We'll try to make that call 20 minutes before every LOS. Over.

03 00 02 54 CDR Fine.

03 00 03 20 CC Apollo 8, Houston. We have the CSM vector in starting on the LV. Over.

03 00 03 27 CDR Thank you.

03 00 03 36 CMP Houston, this is Apollo 8.

03 00 03 40 CC Apollo 8, Houston. Go.

03 00 03 44 CMP Roger. Just an interesting feature: on my center window which has ice on it, it is now beginning to melt. I'm beginning to see through it.

03 00 03 53 CC Roger. That's good news.

03 00 03 59 CMP And again we're directly over our favorites, Messier and Pickering.

03 00 04 23 CMP The view at this altitude, Houston, is tremendous. There is no trouble picking out features that we learned on the map.

03 00 04 33 CC Roger. Jim, that's good news. What do you think of the lighting situation as far as the range of lighting for good visibility?

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03 00 04 46

CMP

The range from here is outstanding. I wish we had the TV still going because the brown area now is darker. We have just passed over the Sea of Fertility, and the mare is darker. The mountain range has got more contrast, has more contrast because of the sun angle. Bill's got the 16 mm going for us.

03 00 05 10

CC

Roger.

03 00 05 13

CMP

There is a crater Taruntius, I believe, over there.

03 00 05 27

CMP

We will try to get TV on this at a later time, when we are not getting ready for a burn.

03 00 05 32

CC

Roger, Jim.

03 00 05 40

CMP

I can see the old second bishop right now, Mount Marilyn.

03 00 05 47

CC

Roger.

03 00 06 18

CMP

Houston, at these sun angles, everything is quite distinct; shadows are good; the ground doesn't have any sunlight returned. It appears very good visibility at these sun angles.

03 00 06 30

CC

Roger.

03 00 07 02

CMP

As a matter of fact, Bill just mentioned that the visibility seems to be excellent just about up to the terminator. It's something which I didn't expect. I thought there would be a little bit more gradual shift to darkness, but it's very sharp and distinct.

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03 00 07 15 CC Roger, Jim.

03 00 07 19 LMP Of course, we are in a very high phase angle
now.

03 00 07 24 CC Apollo 8, Houston. All of your updates are
in; the computer is yours. Over.

03 00 07 32 CDR Thank you.

03 00 07 41 CC The update block.

03 00 07 44 CC Roger. Break. Apollo 8, Houston. Your TEI 2
PAD is good; stand by to copy your TEI 3. Over.

03 00 08 05 CDR Ready for TEI 3.

03 00 08 08 CC Roger. TEI 3. SPS/G&N 46427, minus 053, plus
141 07531 2995, plus 28960, minus 00456, plus
00720. Copy?

03 00 09 06 CDR Roger.

03 00 09 08 CC Roger. 180 021 002, not applicable, plus 00188
28972 251 28793 40 2769 396. Copy?

03 00 09 58 CDR Roger.

03 00 10 00 CC Roger. 033 0000, left 17, plus 0883, minus
16500 12955 36185 146 3507; Sirius, Rigel 129,
155 010, ullage two jets, 20 seconds, quads
Bravo and Delta. Horizon on the 2-degree line
at ignition minus 3 minutes, assumes no LOI 2.
Over.

03 00 11 29 CDR Roger. SPS/G&N - this is for TEI 3 - 46427,
minus 053, plus 141 07531 2995, plus 28960,
minus 00456, plus 00720 180 021 002, NA, plus

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00188 28972 251 28793 40 2769 396 033 0000,
left 17, plus 00883, minus 16500 12955 36185
146 3507; Sirius, Rigel 129, 155, 01, two jet,
20 seconds, B and D, horizon 2 degrees at
ignition minus 3 minutes, assumes no LOI 2.

03 00 12 51 CC Apollo 8, Houston. Readback is correct.
03 00 13 13 CC Apollo 8, this is Houston with a TEI 3 - with
an LOI 2. Over.
03 00 13 31 CDR Go ahead.
03 00 13 33 CC Roger. TEI 3: SPS/G&N 45810, minus 053, plus
141 07521 2846, plus 30128, minus 00540, plus
01911 180 019 001. Copy?

03 00 14 46 CDR Roger. Go ahead.
03 00 14 48 CC Roger. Not applicable, plus 00188 30193 255
30008 40 2742 396 033, down 021, left 18.
Copy?

03 00 15 42 CDR Roger.
03 00 15 44 CC Roger. Plus 0888, minus 16500 12955 36185 146
34 50 GDC, align no change, ullage no change,
horizon 1 degree at ignition minus three.
Assumes LOI 2. Over.

03 00 16 45 CDR Go ahead - or Houston, this is Apollo 8.
TEI 3 with LOI 2. SPS/G&N 45810, minus 053,
plus 141 07521 2846, plus 30128, minus 00540,
plus 01911 180 019 001, NA plus 00188 30193
255 30008 40 2742 396 033, down 021, left 18,
plus 0888, minus 16500 12955 36185 146 3450;

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no change, no change 1 degree in the rise of
ignition minus three, assumes LOI 2.

03 00 18 04 CC Apollo 8, Houston. Roger. I made one mistake;
horizon window is minus 1 degree. Over.

03 00 18 16 CDR Minus 1 degree.

03 00 18 18 CC Roger. Readback is correct.

03 00 18 36 CC Apollo 8, this is Houston. You are GO across
the board for LOI 2. Would like to take the
DSE for a dump. Over.

03 00 18 47 CDR Roger. You got it. I understand we are GO
for LOI 2.

03 00 18 51 CC That's affirmative.

03 00 18 52 LMP Before you take the DSE for a dump, let me
give you a quick - let me give you a quick
rundown on the DSE before you dump it, if you
will.

03 00 19 01 CC Roger. Standing by.

03 00 19 06 LMP Roger.

03 00 21 02 LMP Okay, Houston. You've got the tape.

03 00 21 06 CC Apollo 8, Houston. Roger.

03 00 21 52 CC Apollo 8, Houston. Would you believe that
Taurus, Aida is Pleaides? Over.

03 00 22 01 CMP Thank you.

03 00 27 15 LMP Have you got that tape dumped, Houston?

We're about to lose the high gainer.

03 00 27 32 CC Apollo 8, Houston. We're dumping now - looks
like we'll be 5 or 10 more minutes.

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03 00 27 42 LMP Okay. Try to get it dumped, and I'll play it,
rewind it if necessary -

03 00 27 47 CC Roger. Copy.

03 00 28 55 LMP We are about to lose it, Houston. How far
are you on the tape dump?

03 00 29 01 CC Apollo 8, this is Houston. It looks like we
have lost it. They weren't quite done. We are
standing by for a countdown to BIOMED switch
left. Over.

03 00 29 12 CDR Roger.

03 00 29 14 CMP Look, we would like to get it dumped if we
could. Standby a second.

O 03 00 29 18 CC Okay.

03 00 29 19 CDR Did you get it stopped?

03 00 29 30 CC Bill, you can go ahead and turn it off.

03 00 29 54 LMP Okay. We are not going to have a high gain
now until the next time around. Can you give
me some idea of how much of that pass you got.

03 00 30 04 CC Apollo 8, this is Houston. We - negative. We
can't tell. You can go ahead and turn it off.

03 00 30 12 LMP Well, how long did you - did you dump it?

03 00 30 15 CC Roger. Stand by; they are checking.

03 00 31 09 CC Apollo 8, Houston.

03 00 31 21 LMP Go ahead Houston.

O 03 00 31 23 CC Apollo 8, this is Houston reading you with a
great deal of noise in the background. Go

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ahead and rewind your tape and start it in low bit rate, and we will try to catch that dump at the end of the next rev.

03 00 31 46 LMP Roger. I would like to have an idea on how much you dumped. So I know whether ... all these things or whether we have better setting in.

03 00 31 56 CC Roger. Stand by.

03 00 32 29 CC Apollo 8, Houston. We are working on that time. We should be able to tell you before LOS. Over.

O 03 00 32 47 CC Apollo 8, Houston. Over.

03 00 32 53 LMP Go ahead.

03 00 32 54 CC Roger. Did you read my last?

03 00 32 59 LMP That is affirmative. You will give us a run-down when you figure out how much tape you dumped.

03 00 33 03 CC Roger. They feel reasonably sure, however, that if you rewind and start low bit rate, we'll be able to get all of the burn and still not run into what needs to be down linked yet.

03 00 35 32 CDR Houston, Apollo 8.

03 00 35 33 CC Apollo 8, Houston. Go.

03 00 35 34 CDR Roger. What REFSMMAT are we using for this LOI 2 burn?

O 03 00 36 11 CC Stand by, Frank. We're talking.

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03 00 36 17 CDR Okay. I notice an LOI 2 REFSMMAT. If it is,
I don't understand why the pitch is 175.

03 00 38 12 CC Apollo 8, Houston.

03 00 38 17 CDR Go ahead.

03 00 38 18 CC Apollo 8, this is Houston. You are right;
the REFSMMAT is LOI 2. The REFSMMAT was de-
termined out there before the last midcourse
correction, and since that time, there has
been a slight change of trajectory, and the
point at which you are burning LOI 2 now is
just a shade different than where it was
originally planned. Over.

O 03 00 38 42 CDR Okay. Thank you.

03 00 41 43 CC Apollo 8, Houston.

03 00 41 51 CC Apollo 8, Houston. Over.

03 00 42 12 CC Apollo 8, Houston. Over.

END OF TAPE

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03 00 43 27	CC	Apollo 8, Houston. Over.
03 00 43 45	CC	Apollo 8, Houston. Over.
03 00 44 10	CC	Apollo 8, Houston. Over.
03 00 44 35	CC	Apollo 8, Houston. Over.
03 00 45 12	CC	Apollo 8, Houston. Over.
03 00 45 26	CC	Apollo 8, Houston. Over.
03 00 45 33	CDR	Roger. Go ahead, Houston. Apollo 8.
03 00 45 35	CC	Apollo 8, this is Houston. DSE is rewound, and it's yours - available for use is about 1 hour of low bit rate and 2 minutes of high bit rate for your burn, without running over your good data. Over.
03 00 45 52	CDR	Roger. Do you read us now, Houston?
03 00 45 55	CC	Roger. Reading you loud and clear now.
03 00 46 00	CDR	Okay.
03 00 46 16	CC	Apollo 8, this is Houston. You are GO for LOI 2 on the next rev. Over.
03 00 46 23	CDR	I can understand GO for LOI 2 on the next rev.
03 00 46 31	CDR	How do you read, Houston?
03 00 46 33	CC	Apollo 8, this is Houston. Reading you loud and clear. How me?
03 00 46 40	CDR	Loud and clear.
03 00 46 41	CC	Roger. Frank, did you get my message on the DSE?
03 00 46 47	CDR	Roger. Roger.
03 00 46 49	CC	Okay.
03 00 50 15	CC	Apollo 8, Houston. Verify the TELEMETRY INPUT switch LOW. Over.

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03 00 50 23 CDR Roger. Understand; TELEMETRY INPUT LOW.
03 00 50 26 CC Affirmative.
02 00 50 27 CDR Going to LOW; it was in HIGH.
02 00 50 28 CC Roger.
03 00 59 37 CC Apollo 8, Houston. Five minutes to LOS. Over.
03 00 59 44 CDR Thank you, Houston.
03 01 03 30 CC Apollo 8, this is Houston. One minute to LOS;
all systems GO. Over.
03 01 03 40 CDR Apollo 8. Roger.
03 01 04 25 CC So long.
03 01 04 30 CDR Adios. See you.

D 03 01 31 XX BEGIN LUNAR REV 3

03 01 49 25 CC Apollo 8, Houston. Over.
03 01 49 40 CC Apollo 8, Houston. Over.
03 01 50 17 CC Apollo 8, Houston. Over.
03 01 50 27 LMP Houston, Apollo 8. Over.
03 01 50 28 CC Apollo 8, Houston. Loud and clear. How me?
03 01 50 40 LMP Houston, Apollo 8. Over.
03 01 50 42 CC Apollo 8, Houston. Loud and clear. How me?
03 01 50 49 LMP Roger. Reading you loud and clear and ready for
the burn status report.
03 01 50 53 CC Roger. Ready to copy.
03 01 50 56 CDR Roger. The burn was on time, 11 seconds, 0.2 with
a VG_X , 1.8 VG_Y ; that's minus 1°, minus 0.2 VG_Z .
DELTA- V_C was minus 9.4; VERB 82 gives us an
apogee 62 and a perigee of 60.8.

notebook 212/27
62 x 63. Boy that
Summary about Apollo Report
60.7 + 60.8 = 119.7

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C

03 01 51 42 CC Apollo 8, this is Houston. Roger. Your burn was on time, 11 seconds; VG_X was plus 0.2, VG_Y was minus 1.8, VG_Z minus 0.2, ΔV_C minus 9.4, apogee 62, perigee 60.8. Over.

03 01 52 16 CDR Roger.

03 01 59 06 LMP Houston, how do you read? This is Apollo 8.

03 01 59 09 CC Apollo 8, Houston. Weak but clear.

03 01 59 15 LMP You are loud and clear.

03 02 00 49 CDR Houston, Apollo 8. We're on high gain now if you want to get the high-speed data to look at that burn.

03 02 00 56 CC Apollo 8, this is Houston. Roger.

C

03 02 01 04 CC Apollo 8, this is Houston. We are taking the DSE.

03 02 01 11 CDR Thank you. Can you hold it for about 5 seconds - or about 1 minute?

03 02 01 17 CC Roger. Holding.

03 02 01 30 CDR Okay. Okay. You can dump the data now.

74'02
NAD

03 02 01 42 CC Apollo 8, Houston. Roger. We are taking the DSE for dump.

03 02 01 55 CDR Thank you. We have - updated the LM state vector with the VERB 66, Houston.

03 02 02 01 CC Houston. Roger.

03 02 11 38 CC Apollo 8, this is Houston. Over.

03 02 11 42 CDR Hello, Michael.

I

03 02 11 44 CC Hey, good morning, Frank. We've been tracking you for about 18 minutes now, and we show your orbit 61 by 61-1/2. Over.

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03 02 11 54 CDR Thank you.

03 02 12 02 CC Apollo 8, Houston. Your SPS engine looked good
on LOI number 2 burn.

03 02 12 11 CDR Thank you.

03 02 16 24 CC Apollo 8, Houston.

03 02 16 29 CDR Go ahead.

03 02 16 30 CC Bill has got the tape recorder now; we are
evaluating the dump. The data is good, and we
are evaluating the voice quality here shortly.

03 02 16 41 CDR Thank you.

END OF TAPE

APOLLO 8 AIR-TO-GROUND VOICE TRANSCRIPTION

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----- CC Apollo 8, this is Houston. Over.

----- CDR Go ahead, Houston. Apollo 8.

----- CC I've got a few jolly updates for you when you
are ready to copy.

----- CDR Stand by.

03 02 21 33 CDR Go ahead, Houston, with your updates.

03 02 21 36 CC Roger. Apollo 8, Houston. I have a TEI 3, TEI 4,
and map update for REV 3 and 4 to read to you.
Actually the TEI 3 update which you have on board
is still valid, but we will not update that one.
Which do you want first, the TEI 4 or the map
update?

03 02 22 03 CDR TEI 4.

03 02 22 05 CC Alright. This is the TEI 4 update: SPS/G&N
45695, minus 053, plus 141. Are you with me so
far? Over.

03 02 22 34 CDR So far.

03 02 22 36 CC Very good. 07721 2758, plus 30627, minus
00625, plus 00577 180 018 001, not applicable,
plus 00188 30639 256 30452. Are you with me so
far? Over.

03 02 23 50 CDR So far seems ... hold it a minute though, will
you?

03 02 24 11 CDR Okay. Go ahead.

03 02 24 13 CC Okay. The last number I gave was DELTA-V_C.
Picking up at the sextant star: 40 2730 396 033,
down 030, left 19. Are you with me? Over.

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03 02 24 52 CDR Roger.

03 02 24 53 CC Okay. Plus 0858, minus 16500 12960 36195 146 3721; comments: north set of stars Sirius and Rigel, roll 129, pitch 155, yaw 010, ullage two quad, 20 seconds, two-zero seconds from quads Bravo and Delta; horizon on 2-degree line at time of ignition minus 3 minutes. Over.

03 02 26 15 CDR Roger, Houston. We got a TEI 4 SPS/G&N 45695, minus 053 plus 141 07721 2758, plus 30627, minus 00625, plus 00577 180 018 001, NA, plus 00188 30639 256 30452 40 2730 396 033, down 030, left 19, plus 0858, minus 16500, plus 12960, plus 36195 146 3721; Sirius, Rigel, 129 155 010, two quads, 20 seconds B and D, horizon 2 degrees at TIG minus 3.

03 02 27 26 CC That's about the size of it, Frank, and a map update for REV's 3/4 when you are ready.

03 02 27 38 CDR Ready.

03 02 27 40 CC REV's 3/4: LOS 75:01:23, sunrise 75:10:16, prime meridian 75:17:16, AOS 75:47:18, sunset 76:23:11; remarks: subsolar point 75:46:55, IP-1 acquisition 76:11:17, IP-2 acquisition 76:12:30. For IP-1 and 2, those ACQ times are for shaft and trunnion angles equals zero. Over.

03 02 28 53 CDR Roger. Thank you. 750123 751016 751716 754718 762311, subsolar 754655, IP-1 761117, IP-2 761230, and at shaft and trunnion at 0.

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03 02 29 16 CC That's affirmative, Frank.

03 02 32 53 CC Apollo 8, Houston.

03 02 32 57 CDR Go ahead, Houston.

03 02 32 58 CC Roger. When Bill gets a minute, we'd like to get battery B started charging. Over.

03 02 33 07 CDR Roger. Thank you. He'll take a minute right now.

03 02 36 01 CC Apollo 8, Houston.

03 02 36 07 CDR Go.

03 02 36 08 CC Roger. For Bill - the voice quality on the backside DSE is extremely poor. We consider it unusable, and we recommend that all pertinent comments be hand recorded so we don't lose them. We should not count on using the tape at low bit rate for voice.

03 02 36 32 LMP Okay, Houston. We're getting so busy that we are having a hard time trying to do a neat job of logging. I'll try to do it on the flight plan; and if I make any visual observations, we'll put them on the DSE, and I'll try to scribble some notes here and there.

03 02 36 49 CC Roger. Understand. Now high bit rate is working great.

03 02 36 59 LMP Roger.

03 02 38 27 CDR Hey, Houston, Apollo 8.

03 02 38 30 CC Apollo 8, Houston. Over.

03 02 38 35 CDR How about giving us the TV times for the ninth REV, will you please?

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03 02 38 38 CC Yes, we sure will, Frank. Stand by.

03 02 40 36 CC Apollo 8, Houston.

03 02 40 40 CDR Go ahead.

03 02 40 42 CC Roger. We were checking into precise start and stop times for TV, and you are GO for the next REV. Over.

03 02 40 51 CDR I understand; go for the next REV. Mike, we'd like to, if we could, time the TV to a passing over the terminator. We would like to track the terminator with the TV; think that's the most impressive thing we've seen, and that might be the best thing rather than trying to acquire the earth.

03 02 41 07 CC Okay, Frank. That's one of the things we are looking at right now. We have you ending at about 86 hours, and we're looking at extending that few minutes to include that terminator view. Over.

03 02 41 23 CDR Okay. I don't want us to run into REV 10 very much at all, though.

03 02 41 28 CC Roger. Understand.

03 02 41 30 LMP Houston, Apollo 8.

03 02 41 31 CC Go ahead, Apollo 8.

03 02 41 36 CC Apollo 8, Houston.

03 02 41 37 LMP ... since the DSE qual is not so good. How do you read, Mike?

03 02 41 43 CC I read you loud and clear. You were cut out about the DSE. Say again.

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03 02 41 50

LMP

Roger. Since the qual isn't so good, let me give you a quick rundown of the status of photo targets. You ready to copy?

03 02 41 59

CC

Ready to copy.

03 02 42 05

LMP

Okay. At REV 1, we got photo target 90 and terminator photography south for near-side terminator. Starting on REV 2, we've got target 12 and targets 10, 14, 16, 19, 20, 21, and 23. Unfortunately, we got into a high - I got into the high-speed film there somewhere, and I think those 250mm targets were on high speed. We did change film, and starting out in Tex - Crater, Texas, with target 28, 31, 40, 36, plus several targets of opportunity that were recorded on the DSE, but apparently lost. Have you been able to copy?

D

03 02 43 13

CC

Yes, I'm with you, Bill. Keep going.

03 02 43 18

LMP

Okay. I might be calling up too fast. Okay. On the third REV, we got target 58 and 63 and 65. The training photography was accomplished, and it was done on magazine D, which now has - correction, that's magazine E - which now shows 95 exposures. Magazine D is fresh. Magazine K was also used for training photography, and it's showing 0.51.

03 02 44 22

CC

Roger. We copy all that, Bill.

D

03 02 44 36

CC

Apollo 8, Houston.

03 02 44 37

CDR

... Mike, this is Frank again.

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03 02 44 38 CC Go ahead, Frank.

03 02 44 40 CDR Go ahead.

03 02 44 41 CC Roger for Bill.

03 02 44 42 CDR ... around.

03 02 44 46 CC Apollo 8, Houston standing by.

03 02 44 51 CDR I said is Rod Rose around?

03 02 44 54 CC Stand by one, Frank; we'll look for him, and while we're doing that, for Bill the DSE voice quality on high bit rate is very good, so if he wants to use the DSE in high bit rate for a limited amount of time to record important things, we suggest that he do that. We would like him to wait 20 seconds after turning it on prior to talking. Over.

03 02 45 28 LMP Roger. Copy.

03 02 45 30 CC Thank you, Bill.

03 02 45 38 CC Apollo 8, Houston.

03 02 45 43 CDR Go ahead.

03 02 45 44 CC Rod Rose is sitting up in the viewing room; he can hear what you say.

03 02 45 50 CDR I wonder if he is ready for experiment P1?

03 02 45 56 CC He says thumbs up on P1.

03 02 46 04 LMP Houston, with reference to the DSE on high bit rate, what I would like to do this is - if you got the last pass - I'd like to play it - run it back and start at AOS on low bit rate and then go to high when we need it. How would that be?

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03 02 46 27 CC John Aaron buys it.

03 02 46 32 CDR Okay, Mike. This is Frank again. *Grims*

03 02 46 36 CC Go.

03 02 46 40 CDR Roger. Rod and I got together, and I was going to record a little - say a little prayer for our church service tonight. And I wonder - I guess that's what we are ready on?

03 02 46 56 CC Stand by one, Frank.

03 02 47 00 CDR Alright.

03 02 49 41 CDR Houston, Apollo 8. Are you still there?

03 02 49 43 CC You're still loud and clear, Frank.

03 02 50 01 CC Apollo 8, Houston. Go ahead, Frank, with your message.

03 02 50 07 CDR Okay. This is to Rod Rose and the people at St. Christopher's, actually to people everywhere. Give us, O God, the vision which can see thy love in the world, in spite of human failure. Give us the faith to trust the goodness in spite of our ignorance and weakness. Give us the knowledge that we may continue to pray with understanding hearts, and show us what each one of us can do to set forth the coming of the day of universal PEACE. Amen.

03 02 50 35 CC Amen. *Mike Grims*

03 02 50 36 CDR I was supposed to lay-read tonight, and I couldn't quite make it. *Made by C. H. H. also this "Amen"*

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03 02 50 42 CC Roger. I think they understand.

03 02 51 57 CDR Houston, how do you read? Apollo 8.

03 02 52 02 CC Apollo 8, Houston. Over.

03 02 52 07 CDR Roger. Go ahead.

03 02 52 09 CC Roger. Frank, we'd like to know about the water chlorination. Have you - when was the last time you chlorinated the water? Over.

03 02 52 16 CDR About an hour and a half ago; we've already done it.

03 02 52 22 CC Roger. We copy you an hour and a half ago.
Affirmative?

03 02 52 28 CDR Roger. You know we wouldn't forget that.

03 02 52 36 CC Roger.

D 03 02 52 40 CDR Jim spilled a little, and it smelled like a bucket of Clorox about an hour ago.

03 02 52 51 CC Apollo 8, Houston. Say again.

03 02 52 57 CDR I said Jim inadvertently spilled some of that chlorine, and it smelled like a bucket of Clorox in here for a little while.

03 02 53 06 CC Roger. Understand.

END OF TAPE

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03 02 58 40 CC Apollo 8, Houston. Over.

03 02 58 50 CDR Go ahead, Houston. Apollo 8.

03 02 58 52 CC Roger. We have two and a half minutes to LOS,
and all systems are looking good. Everything is
looking just fine down here, Frank.

03 02 59 02 CDR Thank you.

03 02 59 06 CC We'll have some more information on the TV on
the next rev. We're not planning any big change
in the time, just to extend them a little bit, I
think, closer to the terminator.

03 02 59 21 CDR Just give us the time, will you, because we just
want to know when it is. I'd like to get the
terminator if we could, and we've got a little
message, and that's it.

03 02 59 29 CC Roger. We'll do that the next time you come
around.

03 02 59 32 CDR Thank you. Okay. And have the EECOM guys keep
a sharp watch on our systems. Old Anders is so
busy fooling around with these pictures that -
not much else is getting done.

03 02 59 47 CC Roger. The EECOM is doing that.

03 03 30 XX BEGIN LUNAR REV 4

03 03 49 30 CC Apollo 8, this is Houston. Over.

03 03 50 08 CC Apollo 8, this is Houston. Over.

03 03 50 26 CC Apollo 8, this is Houston. Over.

03 03 50 33 CDR Go ahead, Houston. Apollo 8 here.

which shows
3d Rev.

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D

03 03 50 36 CC Roger. We have been having a little antenna problem on the ground here. We are reading you now with a lot of noise in the background. How me?

03 03 50 46 CDR Loud and clear, Michael.

03 03 50 59 CC Roger. Frank, we are still trying to get a little bit better COMM here. Stand by; you're unreadable.

03 03 52 26 CC Apollo 8, this is Houston. Over.

03 03 52 30 CDR Loud and clear, Houston. Apollo 8.

03 03 52 32 CC I understand you are reading us loud and clear; we are barely reading you. Would you go to P00 in ACCEPT, please? We are going to send you a P27 update.

D

03 03 52 45 CDR Roger. Going to P00 and to ACCEPT, Houston.

03 03 53 47 CDR We are in P00 and ACCEPT.

03 03 53 51 CC Apollo 8, Houston. You are not readable. We are going to delay the P27 until we get a little bit better lock on you.

03 03 54 11 CC As long as you're reading me okay, Frank, I'll bring you up to date on a couple of things. The P27 which we will be sending you is a state vector update going to the LM slot, and we'd like to - as per plan - to transfer that to the CSM slot by a VERB 47 ENTER, and we would like to just remind you that prior to doing your VERB 47 ENTER manually select P00 and wait for the computer activity light to go out. Did you copy? Over.

D

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D 03 03 54 49 CDR Roger. Roger. We copy.

03 03 54 57 CC Okay, Frank. Are you still reading me loud and clear? Over.

03 03 55 03 CDR Roger. Loud and clear.

03 03 55 05 CC Alright. I'll go ahead with a map update when you're ready to copy.

03 03 55 17 CDR Okay. Can you hold off a minute?

03 03 56 17 CC Apollo 8, this is Houston. How are you reading now?

03 03 56 34 CDR Go ahead, Houston. This is Apollo 8.

03 03 57 04 CC Apollo 8, this is Houston with a map update.

Are you ready to copy?

D 03 03 57 12 CDR Just a minute, Mike.

03 03 57 20 CC Roger. Apollo 8, Houston. Your map update for REV 455: LOS 76:59:59, sunrise 77:09:06, prime meridian 77:15:47, AOS 77:45:50, sunset 78:22:03; IP-1 position time for control point 2, 77:29:42; IP-1 time closest approach for target B1, 78:10:25. Over.

03 03 58 23 CDR We'll have to get that data later on.

03 03 58 31 CC We'll try it again later, Frank.

03 03 58 38 CDR Thank you.

03 04 03 14 CC Apollo 8, this is Houston. Over.

03 04 03 23 LMP Do you want to take this NAV sighting?

D 03 04 06 12 CC Apollo 8, this is Houston. Over.

03 04 06 17 LMP Roger, Houston. How do you read?